IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA	:	
v.	:	CR. NO. 01-769-1
DAVID LEE FISHER	:	

M E M O R A N D U M

ROBERT F. KELLY, Sr. J. NOVEMBER 19, 2002

David Lee Fisher has been charged in a one count indictment with possession of a firearm by a convicted felon in violation of 18 U.S.C. § 922(g)(1). The Government has filed a Motion in Limine to Preclude the Defendant from introducing expert opinion regarding whether the condition of the firearm is consistent with having been thrown onto a hard paved surface. Testimony was taken on this Motion and from that testimony I make the following

FINDINGS OF FACT

1. Frederick M. Wentling is employed as an independent firearm and toolmark examiner, having previously been employed by the Pennsylvania State Police as a firearm and toolmark examiner from 1988 to 1998 (Transcript of Hearing on July 15, 2002 ("Tr.") 35).

2. Mr. Wentling has a Bachelor of Science in Education from Shippensburg State University. He later graduated from the Pennsylvania State Police Academy. In September 1988, after a two-year training period, he was certified by the Pennsylvania State Police in the field of forensic firearm and toolmark examination. He is a member of the Association of Firearm and Toolmark Examiners. Mr. Wentling does not hold any professional licenses (Tr. 38-39).

3. Mr. Wentling's experience in conducting "drop testing" of a firearm consists of the performance of what the Pennsylvania State Police refer to as the "shock and drop" test. This test consisted of dropping a firearm "perhaps a foot" above a hard surface onto the butt of the firearm with the hammer cocked. The firearm was also struck several times with a soft mallet. The purpose of the "shock and drop" test was to determine if the firearm had accidently discharged after being dropped (Tr. 39-40).

4. Mr. Wentling testified that he is not familiar with any standards in his field or any other field employed in the drop-testing of a firearm (Tr. 41).

5. Mr. Wentling testified that prior to his being hired in this case, he had performed a "simulation" in which he had dropped a firearm "somewhere around five times" for use in Court proceedings. He testified that he's done a hundred drop tests, but only five times he could remember were they used for Court. He acknowledged that part of the problem that arises in conducting a "simulation" is "how do you standardize on a non-standard event" (Tr. 41-42, 84).

6. Mr. Wentling was hired by the Federal Defender's Association to examine a firearm in the case of United States v. Fisher, the instant matter (id.) On May 30, 2002, Mr. Wentling examined a firearm in the custody of the Norristown Police Department. He viewed the firearm through a plastic bag and manipulated it within the plastic bag. He examined it with his unaided eye and "with a proximate seven power hand lens" (Tr. 42-43).

7. Mr. Wentling stated that he performed a test on two new Sturm Roger & Company, Model P-97 DC, caliber 45 automatics, the same make and model as the firearm in question. He then "framed tests" to test an assertion, the assertion being that markings would be

present if the firearm were thrown from approximately waist height, approximately 36-39 inches off the ground, onto a paved surface. Each gun was dropped once on a concrete sidewalk and once on an asphalt or macadam paving. He admitted that he did not perform the test drops to these two Ruger handguns until June 26, 2002, which was approximately three weeks after he rendered his written opinion in this case (Tr. 46-47, 81).

8. Mr. Wentling testified that he "couldn't replicate the concrete surface in the city of Norristown because he was unaware as to what surface it may have been" (Tr. 48). He selected a representative concrete surface (id.). He took photographs of the concrete sidewalk at the corner of DeKalb and Penn Streets in Norristown and the asphalt paving on De Kalb Street as well as photographs of his two test surfaces (Tr. 49).

9. Mr. Wentling testified that he conducted his two tests by holding the firearm in his hand in the normal firing position, at approximately 36 inches from the ground, and throwing it in a motion from his left to his right, using his right, or stronger, hand (Tr. 51).

10. Mr. Wentling stated that he "had no way of knowing what position the individual was in" when the firearm was actually thrown (id.).

11. Mr Wentling testified that in his report, he reached the conclusion that a gun of this type, model, and weight, would rotate and strike a certain side first because of its weight and gravity rotation (Tr. 47). He stated that he based his conclusion on his theory that two bodies in a vacuum will fall at the same rate (Tr. 48). In this case where "the firearm was given movement and velocity," the heavy side will, if there is sufficient distance and time, come around and go first (id.).

12. Mr. Wentling testified that he is not an engineer and has not had any training

in the field of engineering (Tr. 55). Similarly, he is not a mechanical engineer and has not had any training in mechanical engineering (id.). He also has no background or training in kinematics (Tr. 57).

13. Mr. Wentling's only formal education in the field of physics has been an advanced placement physics course in high school, from which he graduated in 1967 (Tr. 55-56).

14. Mr. Wentling has conducted numerous "shock and drop" tests at the Pennsylvania State Police Lab (Tr. 58-59). This testing was not done using any specific standard such as a manufacturer (of a firearm) would use (Tr. 58).

15. Mr. Wentling admitted that while he was employed at the Pennsylvania State Police, he had never made a determination that was included or written in any report that a particular firearm was, in fact, dropped or not dropped (Tr. 59).

16. Mr. Wentling stated that, in one previous instance in February or March of this year, he had been hired by the Federal Defender's Association to determine (1) whether a firearm had been dropped or thrown and (2) whether the firearm had skidded across a paved highway (Tr. 60). In that one instance, he concluded that the firearm had been dropped based on the "markings, the striation of the firearm itself" that he observed (Tr. 60-61). He did not testify in that case and, therefore, that opinion was never tested in court (id.). He did not remember the name of the case (id.).

17. Mr. Wentling testified that during the period 1988 through 1998 there were "perhaps five" cases in which he rendered an opinion that a particular firearm had struck a hard surface. He was unable to recall either the name or the citation of any of these five cases (Tr. 61-63).

18. When questioned further, Mr. Wentling stated that he recalled that the first case involved the question of whether a lever action rifle had been dropped and struck a surface. He gave an opinion to the prosecutor during pretrial conferences that "it did not appear to have been." He did not testify so his opinion was never tested in court. In connection with that opinion, he performed a "shock and drop" test where the primary purpose was to determine the mechanical integrity of the rifle. The test was conducted by dropping the rifle on its butt on a hard oak board and not on concrete or asphalt (Tr. 61-66).

19. Mr. Wentling stated that the second case involved the question of whether a .22 caliber rifle discharged when the muzzle struck the floor of the barn. He gave an opinion to the prosecutor that the rifle was capable of discharging when dropped onto a concrete surface. That particular issue was never raised in court so his opinion was never tested in court or at trial. In one test that he performed, he dropped a similar rifle on its butt from "a foot or so" onto a concrete surface to see if it would discharge upon being struck. The purpose of that test was to determine operability (Tr. 67-68).

20. Mr. Wentling stated that he recalled a third case which involved the question of whether a shotgun had struck either a large stone or had been dropped or handled roughly. He gave an opinion to the prosecutor that the shotgun had not been dropped, had not struck a hard subject and had not been roughly handled. The specific issue in that case was faulty mechanics and/or accidental discharge and not the condition of the shotgun. He performed a variety of tests using a similar shotgun including a "shock and drop" test. Although he did not testify in court and, therefore, was not subject to cross examination, other experts based their opinions on his work (Tr. 68-70).

21. Mr. Wentling stated that he recalled a fourth case, in Dauphin County, which involved the issue of operability of the firearm. He testified that the firearm had been dropped onto a surface but there was no cross-examination as to that point. He did not refer to any pre-trial testing (Tr. 70-71).

22. Mr. Wentling stated that he recalled a fifth case, in Cumberland County, which involved the question of whether a double action revolver had been dropped or thrown onto a paved surface. He testified in court as to the condition of the revolver - that it "was marked up and that it could have been" thrown. The issue was not the main focus of his testimony and he does not recall whether he was questioned during cross examination about his opinion that the revolver could have been thrown. He did not refer to any pre-trial testing of this revolver (Tr. 71-72).

23. Mr. Wentling acknowledged that he was not present when the Ruger handgun in question was allegedly dropped or thrown. He also had never interviewed or spoken with any of the police officers who were present. Therefore, other than the information from the preliminary hearing transcript, he had no knowledge of the actual height from which the Ruger handgun was thrown or dropped (Tr. 73-76).

24. Mr. Wentling admitted that, in rendering his opinion, he had no way of knowing a number of factors or variables present in the throwing or dropping of the Ruger handgun, including: the movement or speed of the individual throwing or dropping the firearm, the horizontal velocity, the vertical velocity, whether the firearm was revolving laterally, whether the firearm was spinning after it left the individual's hand, and the angle from which the firearm was thrown or dropped (Tr. 76-80).

25. Mr. Wentling admitted that in conducting his "test" he did not attempt to recreate exactly what occurred in this incident because he could not determine the exact conditions that existed when the Ruger handgun was dropped or thrown. Instead, he conducted his "test" based on assumptions he made from reading the preliminary hearing testimony of the police officers (Tr. 83, 85).

26. Mr. Wentling admitted that if the conditions that existed when the Ruger handgun was actually dropped or thrown in this case varied from the conditions used in his test or simulation, "then the results may well vary either more severe or less" (Tr. 85).

27. Mr. Wentling admitted that generally "if a harder item strikes a softer item, there can be a transfer - a marking of the softer item." However, he admitted that he could not eliminate the possibility that there would be no marking (Tr. 86).

28. Mr. Wentling admitted that at the time he rendered his written opinion in this case, he had never dropped this particular Ruger handgun at issue in this case (Tr. 87).

29. Mr. Wentling admitted that his "test", consisting of dropping two Ruger handguns, produced examples of "the marks that can result from such a dropping or throwing" (Tr. 88).

30. Mr. Wentling admitted that he did not rely upon, nor is he aware of, any published reports, studies or tests that address the issue of the marking(s) that will occur when a firearm is dropped or thrown (Tr. 89).

31. Mr. Wentling admitted that the several markings on different places of the Ruger handgun at issue could be the result of the gun's striking a hard paved surface (Tr. 93).

32. Mr. Wentling admitted that he has never been qualified as an expert in any

court in the specific area of what damage or marking(s) would result from the dropping or throwing of a firearm (Tr. 90).

33. Lester W. Roane has been employed as the chief engineer at the H.P. White Laboratory in Maryland since 1984. He received a Bachelor of Science Degree in Aeronautical Engineering from Virginia Tech. He received a Master's Degree in Public Administration from Harvard University. He is currently a licensed Professional Engineer in Maryland. His prior employment includes NACA (the space agency before it was renamed NASA), the Atomic Energy Commission (what is now the Nuclear Regulatory Agency) and the United States Army. He was a division chief for the Army's Small Arms Program at the Aberdeen Proving Grounds (Tr. 106-108, 120).

34. Mr. Roane also taught physics and mathematics at Cecil Community College in Maryland for approximately two years before his employment with H. P. White Laboratory (Tr. 108-109).

35. Mr. Roane has been qualified to testify as an expert in the field of ballistics in state and federal court on numerous occasions (Tr. 109-10).

36. Mr. Roane testified that H. P. White Laboratory specializes in testing guns, armor and ammunition and since 1984, he, as the chief engineer, has overseen all testing procedures done there (Tr. 106-107).

37. Mr. Roane testified that he is familiar with the drop-testing of all types of firearms and the standards applied in the industry by the firearm and ammunition manufacturers, including the association known in the industry as "SAAMI" which stands for the Sporting Arms and Ammunition Manufacturers Institute. He has tested or supervised the testing for hundreds of

firearms, utilizing the standards established by SAAMI (Tr. 111).

38. In the drop-testing conducted according to the SAAMI standards, each firearm is dropped six times in each of its principal orientations or sides onto a hard rubber mat. Although the purpose of the test is to determine the mechanical integrity of the firearm, there is the added requirement that the firearm be checked for any damage between drops. Mr. Roane testified that in his experience in conducting hundreds of these tests, he has seldom seen any damage on handguns (Tr. 113-114).

39. Mr. Roane testified he has also conducted drop-testing of handguns according to the more rigorous standards established by the states of Massachusetts and California. Using these standards, each handgun is dropped six or seven times in each of its cardinal or principal orientations onto concrete. Each handgun is checked for damage between drops. In his experience in dropping at least 60 guns, including semi-automatic handguns similar to the Ruger handgun in question, he has observed that most guns show no visible damage, and in the worst case, very little scratching (Tr. 111, 114-116).

40. Mr. Roane testified that he examined the Ruger .45 caliber handgun in question and based on his experience, he was able to render an opinion to a reasonable degree of scientific certainty that the condition of the Ruger handgun was completely consistent with being dropped or thrown onto a hard paved surface (Tr. 116-117).

41. Mr. Roane testified that there was no way to establish that the Ruger handgun has not been dropped or thrown, “because you can’t prove a negative and there was nothing to uniquely identify it with having been damaged in any particular way” (Tr. 117).

42. Mr. Roane testified that after reviewing Frederick Wentling’s two reports and

listening to his testimony in this case, he believed that Mr. Wentling's test, consisting of dropping two Ruger handguns, once on each of two different surfaces, was of little probative value in this case since the conditions or variables existing at the time the handgun struck the surface are unknown. Without knowing all of those variables, there is no way one could ever conduct a simulation of what occurred on May 12, 2001, the date of the instant crime (Tr. 117-118).

44. Mr. Roane also stated that Mr. Wentling's opinion or conclusion as to how the Ruger handgun - referred to in his report as an irregularly-shaped object - would have struck the surface with its butt or muzzle striking first is contrary to the basic principles of physics.

45. There is no way of establishing that the pistol in question has not been thrown because there are an infinite number of variables. Some of these variables would include how the pistol would rotate, which side it was on when it struck the surface and its velocity when it was thrown (Tr. 118).

46. When asked to comment on Mr. Wentling's report, Mr. Roane responded, "Most charitably I would refer to it as uninformed. More realistically, it's fantastic. It simply ignores basic physics – physical principles" (Tr. 119).

47. When asked to explain this answer further, Mr. Roane said "Because as he correctly says, that one an irregular body is moving in free fall through the air, it moves – rotates and moves around its center of gravity. The center of gravity is, by definition, the point at which the mask is equally distributed in every direction. There isn't any heavy side and light side around the center of gravity, by definition. It simply doesn't exist. If there were – if you consider a heavy side and a light side, then you're not moving around the center of gravity" (Tr.

119).

48. Mr. Roane testified that because you know absolutely nothing about the conditions under which it was launched, or dropped, or thrown, you can't possibly know what the conditions were when it hit the ground. Therefore, there would be no way of telling whether the butt of the pistol or the muzzle of the pistol hit first (Tr. 119-120).

49. The Court finds that Mr. Roane's testimony is reliable and persuasive for the following reasons:

(a) He is a graduate engineer with over twenty years training and experience in the field of firearms testing.

(b) He has had extensive experience in performing drop or throw tests for firearms manufacturers and in accordance with the requirements of the states of California and Massachusetts. This is significant for our purposes because those tests require that a record of damage to the firearm after it has been dropped or thrown six or seven times must be recorded.

(c) Mr. Roane has conducted drop tests involving at least 60 handguns for the state of Massachusetts. These tests require that a handgun be dropped six or seven times on each of its principal orientations or sides onto concrete. He has performed this test on semi-automatic handguns similar to the Ruger handgun in question. As a result of his experience in conducting these tests, he has observed slight to no visible damage to the handguns tested.

(d) Based on his experience in conducting tests on firearms, Mr. Roane explained that there are far too many unknown variables or conditions under which the Ruger handgun in question could have been dropped or thrown for anyone to be in a position to conduct a simulation of what occurred in the case at hand.

50. Although Mr. Wentling has been qualified as an expert in the field of firearms and toolmark identification, he has never testified in any Court where the specific issue was whether a handgun had been dropped or thrown based on the markings or lack of markings on the firearm.

51. Mr. Wentling testified that he was not relying on any published reports, literature or other studies in rendering his opinion in this case.

52. Mr. Wentling stated that he performed his test or simulation involving the two Ruger handguns based upon conditions that he assumed from his reading of the transcript of the Preliminary Hearing. He admitted that he could not determine the exact conditions that existed when the Ruger handgun in question was actually dropped or thrown. He also admitted that if the conditions that existed at the time the Ruger handgun was actually dropped or thrown were different from the conditions he employed in conducting his test, then the results might very well vary.

53. Mr. Wentling never rendered his opinion to a reasonable degree of scientific certainty.

54. The Ruger handgun that is the subject of the present inquiry does in fact have markings or scratches on various places. Mr. Wentling admitted that these could be the result of this handgun having struck a hard paved surface. It is for these reasons that I find that Frederick M. Wentling is not qualified to give an expert opinion on the issue of whether or not the handgun, which is the subject of the present litigation, had been dropped or thrown by the defendant on May 12, 2001 as the defendant was allegedly running from the police.

CONCLUSIONS OF LAW

1. The first requirement under Rule 702 is that the witness "proffered to testify to specialized knowledge must be an expert." Surace v. Caterpillar, Inc., 111 F.3d 1039, 1055 (1997). See also In re Unisys Sav. Plan Admin., 173 F.3d 145, 156 (3d Cir. 1999). While there is no set litmus test to qualify as an expert, there must be some evidence to suggest that the proposed expert possess sufficient knowledge of the subject matter, either through training or experience, to testify as an expert. Surace, 111 F.3d at 1055.

2. While Mr. Wentling is qualified as a firearms expert in the usual sense, i.e., for the purpose of determining whether a firearm is operable or whether a bullet has been fired from a particular firearm, he does not have sufficient expertise to qualify as an expert on the issue of whether the firearm in question had been dropped or thrown onto a paved surface while the Defendant was allegedly running from police.

3. While Mr. Wentling has performed drop tests in the past, they were almost all for the purpose of determining whether a particular firearm would accidently discharge when dropped, not for the purpose of determining what marks were left on the firearm as a result of being dropped.

4. According to the Third Circuit, to assess an expert's methodology under Rule 702, Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993) and Kumbo Tire Co., Ltd. v. Carmichael, 526 U.S. 137 (1999), a district court must be mindful of the following factors:

a. whether a method consists of a testable hypothesis;
b. whether the method has been subjected to peer review;
c. the known or potential rate of error;

d. the existence and maintenance of standards controlling the technique's operation;
e. whether the method is generally accepted;
f. the relationship of the technique to methods which have been established to be reliable;
g. the qualifications of the expert witness testifying based on the methodology; and
h. the non-judicial uses to which the method has been put."

Oddi v. Ford Motor Co., 234 F.3d 136, 145 (3d Cir. 2000) (citations omitted); Booth v. Black & Decker, Inc., 166 F. Supp. 2d, 215, 219 (E.D. Pa. 2001).

5. Mr. Wentling has not done sufficient testing to provide a reliable opinion that the numerous different factors, such as the height from which the gun was dropped, the speed of the individual throwing or dropping the firearm, the horizontal velocity, the vertical velocity, whether the firearm was revolving laterally, whether the firearm was spinning after it left the individual's hand, could be said to have been duplicated by considering the possible range of the different variables. Likewise, since Mr. Wentling had issued his initial written opinion before conducting his limited simulation of dropping two guns, it is not clear to me that Mr. Wentling placed any reliance on the two limited tests when he rendered his opinion concerning the handgun at issue.

6. Likewise, because of Mr. Wentling's lack of expertise pertaining to the issue here, and the absence of sufficient testing, his proposed testimony would not "assist the trier of fact to understand or determine a fact in issue." Id. at 592-93. Moreover, his proposed testimony may likely lead the factfinder to an erroneous conclusion. In re TMI Litigation, 193 F.3d 613, 665-666 (3d Cir. 1999).

7. Mr. Wentling admittedly made no attempt to duplicate the exact conditions

present at the time of the incident in question; therefore, his attempt at simulation is unreliable. Hence, Mr. Wentling's simulation does not "fit" the facts of this case. In re Paoli Railroad Yard PCB Litigation, 35 F.3d 717, 743 (3d Cir. 1994).

8. Finally, because Mr. Wentling testified that the firearm in issue could have been dropped or thrown onto a hard paved surface as alleged by the government, I further find that his proposed testimony does not reflect a degree of scientific certainty in his ultimate opinion which would assist the trier of fact within the meaning of Fed. R. Evid. 702.

Wherefore, the Court enters the following Order.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

UNITED STATES OF AMERICA	:	
v.	:	CR. NO. 01-769-1
DAVID LEE FISHER	:	

O R D E R

AND NOW, this 19th day of NOVEMBER, 2002, upon consideration of the Government's Motion to Preclude the Defendant from Introducing Expert Opinion Regarding Whether the Condition of the Firearm is Consistent with Having Been Thrown onto a Paved Surface, it is hereby

ORDERED that said Motion is hereby GRANTED. The Defendant is precluded from introducing such testimony.

BY THE COURT:

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ROBERT F. KELLY, Sr. J.